

SEQUENCE LISTING

<110> BLUMENFELD, Marta
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CHUMAKOV, Ilya
COHEN, Daniel
ESSIOUX, Laurent

<120> Genes, proteins and biallelic markers related to central...

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              165              170              175
tgt tac ccc cag ggc gcc tcc tcc ggc cag tgc ttc acc gtg gag agc      634
Cys Tyr Pro Gln Gly Ala Ser Ser Gly Gln Cys Phe Thr Val Glu Ser
  180              185              190              195
gcg gac gct gtg tgc gcc agg aac tgg agt cgg ggg gcg gcc gcg ggg      682
Ala Asp Ala Val Cys Ala Arg Asn Trp Ser Arg Gly Ala Ala Ala Gly
              200              205              210
gag gag cag tcg tcc agg ggc tct cgg cca act ccg ctg tgg aac ttg      730
Glu Glu Gln Ser Ser Arg Gly Ser Arg Pro Thr Pro Leu Trp Asn Leu
              215              220              225
tcg gat ttt tac ctt tca ttt tgt aat tcc tac aca ctt tgg gag ttg      778

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09416384-101299

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Phe	Ser	Gly	Leu	Ser	Ser	Pro	Ser	Thr	Leu	Asn	Cys	Ser	Leu	Asp	Val	
		245					250				255					
gtg	ctc	acg	gag	ggc	ggt	gag	atg	acc	acg	tgt	aga	cag	tgc	atc	gag	874
Val	Leu	Thr	Glu	Gly	Gly	Glu	Met	Thr	Thr	Cys	Arg	Gln	Cys	Ile	Glu	
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gct	tac	cag	gac	tac	gac	cac	cac	gct	cag	gag	aag	tac	gaa	gag	ttt	922
Ala	Tyr	Gln	Asp	Tyr	Asp	His	His	Ala	Gln	Glu	Lys	Tyr	Glu	Glu	Phe	
				280				285							290	
gaa	agc	gtg	ctg	cat	aag	tac	tta	cag	tcg	gat	gag	tac	tcg	gtg	aag	970
Glu	Ser	Val	Leu	His	Lys	Tyr	Leu	Gln	Ser	Asp	Glu	Tyr	Ser	Val	Lys	
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tcc	tgt	cct	gag	gac	tgc	aag	att	gtc	tac	aaa	gcc	tgg	ctc	tgc	tcc	1018
Ser	Cys	Pro	Glu	Asp	Cys	Lys	Ile	Val	Tyr	Lys	Ala	Trp	Leu	Cys	Ser	
		310					315				320					
cag	tat	ttt	gaa	gtc	aca	cag	ttt	aac	tgc	aga	aag	acc	att	cct	tgc	1066
Gln	Tyr	Phe	Glu	Val	Thr	Gln	Phe	Asn	Cys	Arg	Lys	Thr	Ile	Pro	Cys	
		325				330				335						
aag	caa	tat	tgc	ttg	gag	gtg	cag	aca	agg	tgt	cca	ttc	ata	ttg	ccc	1114
Lys	Gln	Tyr	Cys	Leu	Glu	Val	Gln	Thr	Arg	Cys	Pro	Phe	Ile	Leu	Pro	
340					345				350						355	
gac	aat	gac	gaa	gtc	att	tac	gga	ggc	ctc	tcc	agc	ttc	atc	tgc	aca	1162
Asp	Asn	Asp	Glu	Val	Ile	Tyr	Gly	Gly	Leu	Ser	Ser	Phe	Ile	Cys	Thr	
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ggg	ctc	tac	gaa	acc	ttc	cta	acc	aat	gat	gaa	ccc	gaa	tgc	tgt	gac	1210
Gly	Leu	Tyr	Glu	Thr	Phe	Leu	Thr	Asn	Asp	Glu	Pro	Glu	Cys	Cys	Asp	
			375					380					385			
atc	agg	agc	gag	gag	caa	acc	gca	ccc	aga	ccc	aaa	gga	acc	gtg	gac	1258
Ile	Arg	Ser	Glu	Glu	Gln	Thr	Ala	Pro	Arg	Pro	Lys	Gly	Thr	Val	Asp	
		390					395					400				
aga	aga	gac	tcc	tgt	ccc	agg	aca	tcg	ctc	aca	gtg	tcc	tcg	gcc	act	1306
Arg	Arg	Asp	Ser	Cys	Pro	Arg	Thr	Ser	Leu	Thr	Val	Ser	Ser	Ala	Thr	
		405				410					415					
aga	ctg	tgc	ccc	ggc	cgg	ctg	aag	ctg	tgt	gta	ctc	gtc	ctc	att	ctc	1354
Arg	Leu	Cys	Pro	Gly	Arg	Leu	Lys	Leu	Cys	Val	Leu	Val	Leu	Ile	Leu	
420					425				430						435	
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Leu	His	Thr	Val	Leu	Thr	Ala	Ser	Ala	Ala	Gln	Asn	Ser	Thr	Gly	Leu	
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ggc	ctg	ggt	ggc	ctc	ccc	acg	ctc	gag	gac	aac	tcc	acc	cgg	gag	gac	1450
Gly	Leu	Gly	Gly	Leu	Pro	Thr	Leu	Glu	Asp	Asn	Ser	Thr	Arg	Glu	Asp	
			455					460					465			
tga	gcgcagccag	gcgcgtgcgc	agagcgcagg	gctgggcagg	gacacgcgct											1503
*																
tggcacagag	cagcagtgcac	ccaccgggga	tgctcacctg	ctgcagccc	ggaactgaac											1563
ccaccgggt	gctctaccct	tggacttctc	gcaaggcctg	tgggtaacat	tcaacaagat											1623
gggcccgatc	cccaacatgg	acacagccgc	agctttttgc	cgactaaaag	gctgcaagt											1683
actcagtttc	tcacaccatt	ttatacactg	tgttttaacg	tttgagggtt	ttctttgctt											1743
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Glu	Arg	Ala	Gln	Lys	Trp	Arg	Leu	Ser	Leu	Ala	Ser	Leu	Leu	Phe	Phe
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Thr	Val	Leu	Leu	Ser	Asp	His	Leu	Trp	Phe	Cys	Ala	Glu	Ala	Lys	Leu
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Thr	Arg	Thr	Arg	Asp	Lys	Glu	His	His	Gln	Gln	Gln	Gln	Gln	Gln	Gln
65					70					75					80
Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Arg
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Gln	Gln	Gln	Arg	Gln	Arg	Gln	Gln	Gln	Arg	Gln	Arg	Gln	Gln	Glu	Pro
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Ser	Trp	Pro	Ala	Leu	Leu	Ala	Ser	Met	Gly	Glu	Ser	Ser	Pro	Ala	Ala
		115					120					125			
Gln	Ala	His	Arg	Leu	Leu	Ser	Ala	Ser	Ser	Ser	Pro	Thr	Leu	Pro	Pro
	130					135					140				
Ser	Pro	Gly	Gly	Gly	Gly	Gly	Ser	Lys	Gly	Asn	Arg	Gly	Lys	Asn	Asn
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Arg	Ser	Arg	Ala	Leu	Phe	Leu	Gly	Asn	Ser	Ala	Lys	Pro	Val	Trp	Arg
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Leu	Glu	Thr	Cys	Tyr	Pro	Gln	Gly	Ala	Ser	Ser	Gly	Gln	Cys	Phe	Thr
		180						185					190		
Val	Glu	Ser	Ala	Asp	Ala	Val	Cys	Ala	Arg	Asn	Trp	Ser	Arg	Gly	Ala
	195						200					205			
Ala	Ala	Gly	Glu	Glu	Gln	Ser	Ser	Arg	Gly	Ser	Arg	Pro	Thr	Pro	Leu
	210					215					220				
Trp	Asn	Leu	Ser	Asp	Phe	Tyr	Leu	Ser	Phe	Cys	Asn	Ser	Tyr	Thr	Leu
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Trp	Glu	Leu	Phe	Ser	Gly	Leu	Ser	Ser	Pro	Ser	Thr	Leu	Asn	Cys	Ser
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Leu	Asp	Val	Val	Leu	Thr	Glu	Gly	Gly	Glu	Met	Thr	Thr	Cys	Arg	Gln
		260					265						270		
Cys	Ile	Glu	Ala	Tyr	Gln	Asp	Tyr	Asp	His	His	Ala	Gln	Glu	Lys	Tyr
	275					280						285			
Glu	Glu	Phe	Glu	Ser	Val	Leu	His	Lys	Tyr	Leu	Gln	Ser	Asp	Glu	Tyr
	290					295					300				
Ser	Val	Lys	Ser	Cys	Pro	Glu	Asp	Cys	Lys	Ile	Val	Tyr	Lys	Ala	Trp
305					310					315					320
Leu	Cys	Ser	Gln	Tyr	Phe	Glu	Val	Thr	Gln	Phe	Asn	Cys	Arg	Lys	Thr
			325						330					335	
Ile	Pro	Cys	Lys	Gln	Tyr	Cys	Leu	Glu	Val	Gln	Thr	Arg	Cys	Pro	Phe
		340						345					350		
Ile	Leu	Pro	Asp	Asn	Asp	Glu	Val	Ile	Tyr	Gly	Gly	Leu	Ser	Ser	Phe
	355					360						365			
Ile	Cys	Thr	Gly	Leu	Tyr	Glu	Thr	Phe	Leu	Thr	Asn	Asp	Glu	Pro	Glu
	370					375					380				
Cys	Cys	Asp	Ile	Arg	Ser	Glu	Glu	Gln	Thr	Ala	Pro	Arg	Pro	Lys	Gly
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662707-101260

Thr Val Asp Arg Arg Asp Ser Cys Pro Arg Thr Ser Leu Thr Val Ser
 405 410 415
 Ser Ala Thr Arg Leu Cys Pro Gly Arg Leu Lys Leu Cys Val Leu Val
 420 425 430
 Leu Ile Leu Leu His Thr Val Leu Thr Ala Ser Ala Ala Gln Asn Ser
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ttagcctctt tctaaaattt attttttgat actgaaggga gaaataggga gttattaatc 180
aacaggcatt aatttttagtc aagcaaaaata aataagctgt agcgatctgc tctgtaacat 240
tgtacctaca gccacaacatt atatgttggt cacttaaaaaa tgtgttagat ctcatagyaa 300
ctcttcttac cacaataaag taaaaattct gaaacaataa gtgaataacct aaataatata 360
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<223> 99-15665-398.mis

<220>
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<223> 99-15665-398.mis complement

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<223> 99-15665.pu

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<223> 99-15665.rp complement

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ggacatatta gattgttaac ttggaagaaa gaccatattc aaagaagaaa acatagtgc 180
taatttcaaa catttaaaagt cttccctgtg gaaacaaagg aatatctttg ttctaact 240

tcaaagaaca	gggttaaaaa	atagactcac	cacagagtaa	atgcacaatt	gacaatcgtg	300
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ggcttcctac	taaggtaatg	aatgtaattc	acagagarca	ttcacgtata	agtttcattc	420
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<210> 34
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 <212> DNA
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<220>
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 <223> 99-15672-166.mis

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 <222> 167..185
 <223> 99-15672-166.mis complement

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 <222> 1..18
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<220>
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 <222> 533..551
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acatctgtgc	ctgtgcgtat gtgcacgtgt gtgcagtcac atacaygttg agtaaaggta 180
aagtctagct	gtatttaatc aacctacctg aatcctcagg aaaaaattct aaacctagtt 240
taaaacatgt	aaactctaag ctctctcctt atagtcagtt agtagcagca catcttaaaa 300
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catgtacaga	agttctcata ttactttaca taaatgggtg cataattggt ttatagttaa 480
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aaaagg	

<210> 35
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 <223> 99-15664-185.mis

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 <223> 99-15664-185.mis complement

<220>
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 <222> 1..19
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 <222> 54
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 ataattcctg gggaaagtgt gctccctagt gttaagagcg gtttaatggc tggaggggtt 180
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 agatcatttg attttcaagt aagtcgaaac cttggtggaa atcattaact atcctgttta 420
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<220>
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<220>
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 <223> 99-5919-215.mis complement

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 <222> 1..19
 <223> 99-5919.pu

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 atcacctttt cctgtataca tttttaggat gtcagacttt attctaata tttctcctag 180
 ttgcccccca aaattgtatt ctacrgtgtg attttaaaagc tgaattttca agatgatatt 240
 tcatatctat attttcacia gcttttcttc tatgaatgtt attgtcagct gtcagggtgt 300
 gagatggtac ttgatactac attctttcca agctgttgcc tgaatcggtt taagacaaaag 360
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<220>
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<220>
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 <223> 99-5862-167.mis complement

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 <223> 99-5862.pu

<220>
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 <222> 430..450
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 aggatactaa aatctgagtt agaaaaattt gagcatyagc accttacgtg tcatgctaag 180
 atagtgaatg agactgcaca ggaattgcat gcagtttaac ggaaaaagaa gtcgaaagat 240
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 gggagacatg tcaattgttt agccaatatc catttaactc atctttcttc ctaatgaaaa 360
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 catgcactga actgacaaag ttcaggtctg 450

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 <221> allele
 <222> 292
 <223> 99-16032-292 : polymorphic base A or C

<220>
 <221> misc_binding
 <222> 269..315
 <223> 99-16032-292.probe

<220>
 <221> primer_bind
 <222> 273..291
 <223> 99-16032-292.mis

<220>
 <221> primer_bind
 <222> 293..311

SECRET

<221> primer bind

<223> 99-16032.pu

<221> primer bind

<223> 99-16032.rp complement

gttgttaccc	cacttcttcc	cccagctcc	cccttctca	cacagttcat	gccacatgcc	60
actctcctgg	actactggaa	atgcgtcagt	ccactctggg	ctcatcccat	catcccccat	120
gctgcaacct	gagagagagt	tgcaagttgc	aaatctgata	ttgtcaccac	cactctccac	180
actaaatccc	tctaatagct	ccccctttct	ttttggataa	attccttctg	cttgcatagc	240
cacgtggttg	gcttctatag	catcacttca	cactgtggtc	acctgccttc	tmctcactca	300
ggaacttctc	tccattgaag	aagttcttct	tcccatactc	cagggctttc	ccactgacag	360
ttgtatctcc	cccataccaa	gcccaggtgg	tcatactcatc	cca		403

<211> 476

<213> Homo sapiens

<221> allele

<223> 99-16038-118 : polymorphic base A or G

<221> misc binding

<223> 99-16038-118.probe

<221> primer bind

<223> 99-16038-118.mis

<221> primer bind

<223> 99-16038-118.mis complement

```
<221> primer bind
```

<223> 99-16038.pu

<221> primer bind

43

<223> 99-16038.rp complement

<400> 39

gttgcttatt	ctttctctct	tctgcagggt	ataaaggaat	ctgaacacga	ctgatatttt	60
ctttaatttt	tagatccaga	tatacattgg	gtaaaatcta	cttcataagg	tttcaaarga	120
gcattcttct	gagcaaactc	gaaaactctc	taaactctat	tggtatgtta	ctctttatct	180
ttatatgaat	ttaaattctt	ctagaagtta	gataaaactg	tggtaaagct	acataatact	240
tttgacatat	tttcaagcgt	agacaaactt	caattaattt	gtaagataca	ggaagaaaat	300
ttttccagtt	aaaatgtacc	tcttggtttc	tggtagtgtta	gcaaccattc	acacttacag	360
ttcaaacagt	gcaaccttgt	aaaacatata	taacttatga	agagatcgat	atctcttttt	420
ataaagcaaa	caagtaaatt	tttcctcaa	tccatgattt	atttttgtga	agtggg	476

<210> 40

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 133

<223> 99-5897-143 : polymorphic base A or C

<220>

<221> misc_binding

<222> 110..156

<223> 99-5897-143.probe

<220>

<221> primer_bind

<222> 114..132

<223> 99-5897-143.mis

<220>

<221> primer_bind

<222> 134..152

<223> 99-5897-143.mis complement

<220>

<221> primer_bind

<222> 1..18

<223> 99-5897.pu

<220>

<221> primer_bind

<222> 475..492

<223> 99-5897.rp complement

<400> 40

aaaagtgttt	gccagtcctg	tttcttacag	agcacagaac	tcagatgctc	ttataaagat	60
acaggataaa	tcacatcatt	tcctgctcca	tcacacagaat	attattatat	gatttagatc	120
acttttttaa	aamagaacat	ggacttagta	cagaacaaca	gcaaaagcct	ggggaaggag	180
aggagtgcac	catgaggagt	caatggggag	cagaagccag	tccatttgac	tgatttggtt	240
cgtgtgcaaa	ataattgcta	aataattgca	tatatgtgag	actccgggta	ttttcaaaac	300
cagctggcaa	aattgtgtta	ttctctaccc	tctgctggct	ttcacgggtt	ctctgttctc	360

<220>
 <221> allele
 <222> 97
 <223> 99-13925-97 : polymorphic base A or G

<220>
 <221> misc_binding
 <222> 74..120
 <223> 99-13925-97.probe

<220>
 <221> primer_bind
 <222> 78..96
 <223> 99-13925-97.mis

<220>
 <221> primer_bind
 <222> 98..116
 <223> 99-13925-97.mis complement

<220>
 <221> primer_bind
 <222> 1..20
 <223> 99-13925.pu

<220>
 <221> primer_bind
 <222> 513..533
 <223> 99-13925.rp complement

<400> 42
 catggaagta aaagcatatc ttcattataa gacttctaca caaattatca catctttact 60
 tacagcagct gaaacctgga aacaactcta atgccrtca acagaggaat ggatggataa 120
 agaaactgtg atgcagtggg atacgactca acgaagatga gactaaaaat aattatactg 180
 agtaaaagaa tccaaacaaa atagagcaaa cactgtgccca tctgtttat accttactcc 240
 agtaaatgca aactaataca caatgaaaaa aattacttat ttgagaactg gggagaggaa 300
 ggagagggaa aggggtagat aaagaaaaga ggagagatta aaaggagcat aagaaaacct 360
 cagagaataa taggtttgtg gtaaacatta ccgtggtaat gtttttaggg tatattcaca 420
 tgtaaaaact tatccaatta tacattttta atatgtacag tttagtgtgt cagttatgcc 480
 tctgtaaagt tgatttttaa aaaagtccta ttccaagtym acaatttcat ttg 533

<210> 43
 <211> 480
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele
 <222> 201
 <223> 99-13929-201 : polymorphic base A or C

<220>
 <221> misc_binding

<222> 178..224
<223> 99-13929-201.probe

<220>
<221> primer_bind
<222> 182..200
<223> 99-13929-201.mis

<220>
<221> primer_bind
<222> 202..220
<223> 99-13929-201.mis complement

<220>
<221> primer_bind
<222> 1..19
<223> 99-13929.pu

<220>
<221> primer_bind
<222> 460..480
<223> 99-13929.rp complement

<400> 43
gggagaatac taataatgga agcattactt ttattttttc tataaattcc tctggaaata 60
tgtattttctt atgtcctaag gttattaaca aaaagagaaa ataattttctg atttataatt 120
cacttttctt caaaaaataa taactcagtg tctagtaagg taaagcaaaa aaagttaaaa 180
gaaccataa gtttatttta maatacctac tcagaagcaa aactgacttt ctattaaaaa 240
ttaaaaaaaaa agtttttctt attattgttt tgtttccttg tttttagggtg atgggattgt 300
atttgcaact ctctggtcag taagtataa aatgccattt ctatgcaccc acctggcctg 360
tgtgactggg agaatctctc tttttattaa atgtgcttca agttttaaca actgactttt 420
gttagtgata tgatttatct acccgtgact gtcaaacaac acagatgatt tgcatatctc 480

<210> 44
<211> 477
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 108
<223> 99-14021-108 : polymorphic base A or G

<220>
<221> misc_binding
<222> 85..131
<223> 99-14021-108.probe

<220>
<221> primer_bind
<222> 89..107
<223> 99-14021-108.mis

<220>

<221> primer_bind
<222> 109..127
<223> 99-14021-108.mis complement

<220>
<221> primer_bind
<222> 1..18
<223> 99-14021.pu

<220>
<221> primer_bind
<222> 460..477
<223> 99-14021.rp complement

<400> 44
tttgttggtta atcgccccctt ttctgcaaca cttgtggggtt agggaaaata attctaaagc 60
aagagcaaag acagagttgg gagatcacca gtgaggttca attttcrtc acattcactc 120
tgctccacac ctacagataat catgtgctta actgcgaaac ttgcttgaca attacagaac 180
actttctcac ccattactac cttgatcctc acaattctgt ggggtagtag gagcagatgc 240
tgaaattgcc atacgcaa atcagtgactg aagcttagag acctccagca ggggcagagg 300
gtcagcggaa actatcccag gggtcagcca acaagaaagt atattggaat cagagtatta 360
aaataagaat aataaaacca actaaaattt accgtgcttt ttatttccac tcagtgccaa 420
caattcttaa cagtgtcagt gatggatccc tgtgccccag gggacagact tcttact 477

<210> 45
<211> 475
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 314
<223> 99-14359-314 : polymorphic base G or C

<220>
<221> misc_binding
<222> 291..337
<223> 99-14359-314.probe

<220>
<221> primer_bind
<222> 295..313
<223> 99-14359-314.mis

<220>
<221> primer_bind
<222> 315..333
<223> 99-14359-314.mis complement

<220>
<221> primer_bind
<222> 1..18
<223> 99-14359.pu

<220>
 <221> primer_bind
 <222> 457..475
 <223> 99-14359.rp complement

<400> 45
 ataaggggaat ggtgtgaggt gggaccagag gaggtgcac tgagaaagt agaggggcaa 60
 gacctcaggg gaagaaggga gggctgcacg gatgtctcag gcagagcagg cagcaccgga 120
 aaaggtgggg gacactcctt ttggaccagc atataatttg gttaaagcct ctcctgtttc 180
 acctaataata taagcacatt tcaagataaa actactactt tattgtcatc aaatataaaa 240
 gtaatttttt attcagggtt ttctaatact catctataaa ggcatttctt tcccacatgg 300
 catgtgtttac aggstgttta acttaaagca attgtaaaag aaaagcctga agaaataagt 360
 ctacaacgat ttacatcgtg tttatttttg tgtcaaaata tatgttataa tatacattag 420
 ctatactaag ggaatcaaga gaagatcata attgctctta tgacttggga ttttag 475

<210> 46
 <211> 473
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele
 <222> 316
 <223> 99-14364-415 : polymorphic base C or T

<220>
 <221> misc_binding
 <222> 293..339
 <223> 99-14364-415.probe

<220>
 <221> primer_bind
 <222> 297..315
 <223> 99-14364-415.mis

<220>
 <221> primer_bind
 <222> 317..335
 <223> 99-14364-415.mis complement

<220>
 <221> primer_bind
 <222> 1..19
 <223> 99-14364.pu

<220>
 <221> primer_bind
 <222> 453..473
 <223> 99-14364.rp complement

<400> 46
 gtgttttaat tcaaccagc tataagatac gaaatgatag aattgctcta gattctctat 60
 tgggttaata aggagatatt tgtgctattg ccaataatac atgtgtgacc tggataaacc 120
 cctttgggca agttgtgatg caaataactca agaaaatag ccacatagtt acaacaggac 180

ttacctaatt	ccccatgggc	atgttggtga	ttcagtcagt	tgctttcaag	cctaggttct	240
tggtcaata	ttattacata	aactagaatt	ttcctattac	tattaatttt	actttgtatt	300
tttctttata	aacttygtac	ttattgcttg	tcaaatttca	gcagaagtac	aactcctgag	360
agaataatgc	tggtcagag	ttttgagatg	ataacccttg	tctatgaaac	tgatgaagtt	420
ggacttaaca	acgaacactc	cccacagaac	tctgatgct	caaatgtggc	taa	473

<210> 47
 <211> 502
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele
 <222> 99
 <223> 99-15056-99 : polymorphic base C or T

<220>
 <221> misc_binding
 <222> 76..122
 <223> 99-15056-99.probe

<220>
 <221> primer_bind
 <222> 80..98
 <223> 99-15056-99.mis

<220>
 <221> primer_bind
 <222> 100..118
 <223> 99-15056-99.mis complement

<220>
 <221> primer_bind
 <222> 1..18
 <223> 99-15056.pu

<220>
 <221> primer_bind
 <222> 482..502
 <223> 99-15056.rp complement

<400> 47	
caggaaactc	acaagaagsc agatttcctt cgagcacctc ctgaataaag aggcaaaggc 60
cttcttaact	cttacaattt acaagtggct atgagtgcyt ttatagttcc cataataatt 120
tctccacgta	gacttcctaa ataataattt ctccctgttt atattctctg tgcttatgtt 180
tatatcaaac	aagttaccac ttaatcaaag gccgatttgc attgctcact atgtaacttt 240
aattttcttt	gcctcttatt tttggatcct aattctaaaa ctatgatgac ataaattcat 300
ttaggaataa	gcttgatgat tagccttctt ttgaaccctt ttgtgctcct cacaatatat 360
gtttcgatga	aacagtgcgc aacatttgat ctatgattgt taatagaaaa acaccaatgt 420
ctcaagttat	tgtaaacata ggcataattg acctttgggt ctataaatat gtttgggtgt 480
ccccaaaata	cgtctccctt tt
	502

<210> 48
 <211> 494

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<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 412
<223> 99-15229-412 : polymorphic base A or G

<220>
<221> misc_binding
<222> 389..435
<223> 99-15229-412.probe

<220>
<221> primer_bind
<222> 393..411
<223> 99-15229-412.mis

<220>
<221> primer_bind
<222> 413..431
<223> 99-15229-412.mis complement

<220>
<221> primer_bind
<222> 1..20
<223> 99-15229.pu

<220>
<221> primer_bind
<222> 476..494
<223> 99-15229.rp complement

<400> 48
ctgtcattga gaaatgctac caataatact tagagaattt gatacaactc agtctgaaaa      60
agctaagatt agcagaacag agctgtctcc aaatatattga agaactatatt tattaaggg      120
attggaccca tttttgtatg tagttccaga ggagcagatg gtgaccactg tccaggcaga      180
tgtgtctcaa tgtaaggaca acatctgtaa tattaataat tagaatgtat cctgtaattt      240
tctctctacc cttggaaacc agtcgagatc cagagtcttt cactgggagg cttaaagcct      300
agagcagcct tgggtgctaga ggcggacagg gataatgaac taatcttgaa ccaattcatc      360
catagcaatc tcaatgcttt cgttagctct tataggattt taatacggcc avaggaatga      420
aggtagtctt gctggtttag aagccctgcc taccacaacc cctacaccac cccatcccct      480
gcatagtctg atgt                                     494

<210> 49
<211> 485
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 291
<223> 99-15232-291 : polymorphic base G or T

```

<220>
 <221> misc_binding
 <222> 268..314
 <223> 99-15232-291.probe

<220>
 <221> primer_bind
 <222> 272..290
 <223> 99-15232-291.mis

<220>
 <221> primer_bind
 <222> 292..310
 <223> 99-15232-291.mis complement

<220>
 <221> primer_bind
 <222> 1..18
 <223> 99-15232.pu

<220>
 <221> primer_bind
 <222> 467..485
 <223> 99-15232.rp complement

<400> 49
 caatagaaca ggctgctcct ttataattat taatcatagt gtatattaat tcatcatcac 60
 atacgtggct agaaaaaaaa ttagaacaaa aagatatgtg atatgtaaag gcctacgata 120
 attcagactt ctttgaggag agcttttatt ttattgttat tcttatttta tctcttgtca 180
 atataaattg agagaataaa cagacaaaca ttacaaatta gtgattaatt gcatttaaag 240
 cctagttaag actattttaag actatttatgc ataatacagg aaaactacct ktattattta 300
 tagtgggtgc cttctgaagg atctgaagga gaatcagttc tatgcctctc tctcattcc 360
 caggaggtgc ctggcattcc ttggcttgta gacgcacac cctaattctc acctctgcct 420
 tcacatggtg tcccctgtgt gtgtgttttt gcccacatgtg tctcctcttt ttatatggat 480
 gccag 485

<210> 50
 <211> 464
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele
 <222> 347
 <223> 99-15241-347 : polymorphic base A or G

<220>
 <221> misc_binding
 <222> 324..370
 <223> 99-15241-347.probe

<220>
 <221> primer_bind
 <222> 328..346

<223> 99-15241-347.mis

<220>

<221> primer_bind

<222> 348..366

<223> 99-15241-347.mis complement

<220>

<221> primer_bind

<222> 1..19

<223> 99-15241.pu

<220>

<221> primer_bind

<222> 444..464

<223> 99-15241.rp complement

<400> 50

gttatgggtt	gaaaatctct	gagttcttgt	acatacaaaa	atctttactgt	tgtcacagtt	60
gaatcttagt	ttagatgggt	ataggatttt	tattcaaaat	gcttttactc	cataagttta	120
aaaatattgt	tacattttcc	tcaagtatct	gatgttattg	atgagaagtt	taattctaata	180
ttgactcttg	ttcccttgta	ggtactatct	gttttccagt	ttgggaagct	tacatttctt	240
aaaattcaca	acataataatt	tacatactac	acaattcttt	ttaaagtata	caattcaatg	300
catttagtat	gttttagtac	atataactta	aattatgtat	atacaaratc	tctttataat	360
atgtgtagaa	tatgtagcat	attcacaaga	ttgttcaacc	atcaccactc	tctatttcca	420
gaatcttttc	ctccaaaaag	aaaccctgaa	cactatgatg	aata		464

<210> 51

<211> 550

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 196

<223> 99-15244-196 : polymorphic base A or G

<220>

<221> misc_binding

<222> 173..219

<223> 99-15244-196.probe

<220>

<221> primer_bind

<222> 177..195

<223> 99-15244-196.mis

<220>

<221> primer_bind

<222> 197..215

<223> 99-15244-196.mis complement

<220>

<221> primer_bind

<222> 1..20
<223> 99-15244.pu

<220>
<221> primer_bind
<222> 532..550
<223> 99-15244.rp complement

<400> 51
ctgcttctgg ttatgttttc ctaattgcc aatggtaaa aatgagaata atcattgaaa 60
gagaaagcat aaagtagcaa aaatcctttc cagattaaaa aacgaagcaa agcatgtttc 120
ccaagtaata atactctcat ctctctccct aatcctttac cccactacca gaagaagagt 180
aaaatgtccg gatatrtrttg aaggtaaaga tttctccttt taataaaatt agtcaccttg 240
tacacatcag tagatcttga gaatgaaaag cttttctagt acattcattt caacctataa 300
atgtttgact tttctctgtc attcatttac gacctgtgat cttttcattc cctttcagtt 360
agaatatttt tcaaattttt attgatattt tctatttaac ccatagggtta ttgggaaata 420
cattgtttta tttctaatat atttgctttt ttttctactt atttcctttt ttcttaattc 480
cacactggtc caaatatatt ctgcatatga tttaatat tttaatat taagttctgt agagactaac 540
cttgtgccct 550

<210> 52
<211> 452
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 404
<223> 99-15252-404 : polymorphic base C or T

<220>
<221> misc_binding
<222> 381..427
<223> 99-15252-404.probe

<220>
<221> primer_bind
<222> 385..403
<223> 99-15252-404.mis

<220>
<221> primer_bind
<222> 405..423
<223> 99-15252-404.mis complement

<220>
<221> primer_bind
<222> 1..18
<223> 99-15252.pu

<220>
<221> primer_bind
<222> 433..452
<223> 99-15252.rp complement

```
<400> 52
atgggggcat atagcaaccc tttagaaaca aaactacaaa aggtaagctt gtcttcttgc      60
atttcctttc tcttactaca tttaacatgg gaggttttct atgtctcaca ttcaaatatt      120
ctcactcggg ctgcctaatt tttccctgat tttccatcac tctttatgaa ggcttgctac      180
tttagaatac acatttttctt aacagaagat aataatcaga agatgtctcc caaatataag      240
tccaaatctt tcctatcatg ctgtgttctt tggctctttt gactttattt gaagtcagcc      300
ttgaagggga tagagatagg ctgtatgaag tccacgctga gaagttttgc cctgccctac      360
ttgtcctgta atatttcatg gatagcccag tggtgattaa accygtgtgt acaggaataa      420
ccatgagaat ttgttaaaaa tataggctct gg                                     452
```

```
<210> 53
<211> 477
<212> DNA
<213> Homo sapiens
```

```
<220>
<221> allele
<222> 382
<223> 99-15253-382 : polymorphic base C or T
```

```
<220>
<221> misc_binding
<222> 359..405
<223> 99-15253-382.probe
```

```
<220>
<221> primer_bind
<222> 363..381
<223> 99-15253-382.mis
```

```
<220>
<221> primer_bind
<222> 383..401
<223> 99-15253-382.mis complement
```

```
<220>
<221> primer_bind
<222> 1..19
<223> 99-15253.pu
```

```
<220>
<221> primer_bind
<222> 459..477
<223> 99-15253.rp complement
```

```
<400> 53
aaaatcaatt ccccaacact cattttgtac gctaattttg taagatcctg aaaagtttca      60
ctatttttat gtttcatgtg ttacagatga aaaaaaaact agaattcaaa ttttctgagt      120
ttttttttac aatattttat gattacaaag ttagaagact aagaataaaa tggcctaatt      180
tccataatgt gagtggtaaa tgcagagcac tggcctaaag aaaatatttc aaaaaattag      240
tcactctttc cttaattttt ttccaacctg tgatctgttg aatgagcatt ttgcatatat      300
aaataaataa attactttgt aaataatctt gactggtttc tgttgaccac agtaaccac      360
tgcacagcac agcctgtaat tyctatgaac ctagggaat gtattttaagt ttattttttg      420
```

attacacagg tcctcattgt gtaactaaac attgcataga atatgccagt gatgatg 477

<210> 54
 <211> 456
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> allele
 <222> 392
 <223> 99-15256-392 : polymorphic base C or T

<220>
 <221> misc_binding
 <222> 369..415
 <223> 99-15256-392.probe

<220>
 <221> primer_bind
 <222> 373..391
 <223> 99-15256-392.mis

<220>
 <221> primer_bind
 <222> 393..411
 <223> 99-15256-392.mis complement

<220>
 <221> primer_bind
 <222> 1..18
 <223> 99-15256.pu

<220>
 <221> primer_bind
 <222> 439..456
 <223> 99-15256.rp complement

<400> 54	
cctctctatg atgcttccta ttaagcaatt ggggaaatgt aataaacaag ggttggtgag	60
catcttcctt agtgagatgt ttttggaaga attggataat tgagtgaata atagtgagaa	120
actcctgtgt ctgatgttgc tccatgttgg aatgctttta tgttctcaga gaatgagtca	180
ctgagagcca attgtgatga tacacaatgg ttttaccag gttggatatg gtcctctgta	240
ctgggtaccct ttaagtcagt ggcactaatc agtcagtcac tgtcatgctt tgtgttggtc	300
catcatatgg tatgccctct tagagaacat cctgattagt ccttagacat cttttcaatt	360
tgaacactgg ggctcctcat tcgggtaaaa aytatggaca gtcagtgaat ctggtgcaat	420
ggcccctcat agcagattgg atctcaatgc actttg	456

<210> 55
 <211> 501
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele

<222> 200
<223> 99-15261-202 : polymorphic base A or G

<220>
<221> misc_binding
<222> 177..223
<223> 99-15261-202.probe

<220>
<221> primer_bind
<222> 181..199
<223> 99-15261-202.mis

<220>
<221> primer_bind
<222> 201..219
<223> 99-15261-202.mis complement

<220>
<221> primer_bind
<222> 1..19
<223> 99-15261.pu

<220>
<221> primer_bind
<222> 481..501
<223> 99-15261.rp complement

<400> 55
cttctaattcc tttgtttcca cttattttat ttcattctctc attttatccc ttttttctaa 60
attccatttt attatactta aggtgctttt aatatgggta tcatactcct gatagtgtta 120
tttctttctt agtcttctta tataagcgct atacgttcac attccatctc ctttggttat 180
ctttccattt cttcacccgar cctctttgct ctcttttttt atagctgggt cactcaaaat 240
gtcttacttt gccatttttg aaattttatt tcattctttt atgtactgaa taaaatttaa 300
aaatacttta tcatgggtgg aggtacccgt gatgtccaaa taagtgttta tattaattgt 360
tgggggtttt ttgtttgtgt gttttttgaa aggttaagaa aatctcattc agaaagtaag 420
ttgtttaaaa attctggacc aaatttacca cacatcaagc agatacttac caagttgttt 480
ggtagacatt agcagtattt a 501

<210> 56
<211> 541
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 432
<223> 99-15280-432 : polymorphic base C or T

<220>
<221> misc_binding
<222> 409..455
<223> 99-15280-432.probe

<220>
 <221> primer_bind
 <222> 413..431
 <223> 99-15280-432.mis

<220>
 <221> primer_bind
 <222> 433..451
 <223> 99-15280-432.mis complement

<220>
 <221> primer_bind
 <222> 1..18
 <223> 99-15280.pu

<220>
 <221> primer_bind
 <222> 521..541
 <223> 99-15280.rp complement

<400> 56
 atgtccatcc atcttgccca gagagagttt ctacaacact tcctctgcaa gccctttccc 60
 tacttgccctc acctattgct ttcctctggt acgttgattt cccctcactg tttcttccaa 120
 catcttccca cctcagagca tggacacttg ctgctctttc tgtgtcatga tgctgctcac 180
 ttgtcccttt cttaatgtct cctccctgag ccaatcttct ccacccccac aacttacgca 240
 cacttacatg tcatattttc cttcatagcc tttaacacca tttgaaatga tatatatttg 300
 attgctttta aaatttctct gtccccccac taaatataaa cttcaggatg gcaagaatgt 360
 agtccattat cttatttctc cagcctccat acttttaaga aaataaattt tggttgtata 420
 agccatccag tyagtgttac ttggttatag cacccttagc aaaagaatac aaaaaaaggg 480
 agaatgtttg caatcatctg tttgaggcta ggaattccca gagagggaaa caaggagtaa 540
 t 541

<210> 57
 <211> 514
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele
 <222> 428
 <223> 99-15353-428 : polymorphic base C or T

<220>
 <221> misc_binding
 <222> 405..451
 <223> 99-15353-428.probe

<220>
 <221> primer_bind
 <222> 409..427
 <223> 99-15353-428.mis

<220>
 <221> primer_bind

<222> 429..447
<223> 99-15353-428.mis complement

<220>
<221> primer_bind
<222> 1..18
<223> 99-15353.pu

<220>
<221> primer_bind
<222> 495..514
<223> 99-15353.rp complement

<400> 57
tgggaatgga ggtagtagac gatgaggtct ccaccctctg actttgcaga gatgggcaag 60
gccaagtgtt ggaagggctt aaacacacac cggagtattc tgtgagaacc agtggatttc 120
agaggatggc aatgacacca cttgccttct gcctcaggag gataactgat ggccgtgtgt 180
gggatgcact ggagagcaag agctggcttg cagggagacc agctggatga ttttctttca 240
tttattttat tcattcaaca cacattcatc tggggttcac tctgtgcca acactgggca 300
tttccaaata gtccagatgg cagtaagcat ggttgtggca gtaggaatgg gaaggctggg 360
aggggtatga gaggcattac aaacgggaag tgggagtgcc accccagaaa agtctagttt 420
aaggtgcyag tggatgtgtg catgtgtgcg cgggggtgtc tagagggtgg cgggcagctg 480
gaaattgagg tcaagtgcct aaagaacaac tcgt 514

<210> 58
<211> 489
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 150
<223> 99-15355-150 : polymorphic base C or T

<220>
<221> misc_binding
<222> 127..173
<223> 99-15355-150.probe

<220>
<221> primer_bind
<222> 131..149
<223> 99-15355-150.mis

<220>
<221> primer_bind
<222> 151..169
<223> 99-15355-150.mis complement

<220>
<221> primer_bind
<222> 1..18
<223> 99-15355.pu

<220>
 <221> primer_bind
 <222> 471..489
 <223> 99-15355.rp complement

<400> 58
 taactttctcc gtctctcctt cttagcccat atgtcaataa tgactgaaag tattcatttc 60
 catcttttaa ctgcctattc cagccacctc ccacctccat ctctttcctt ctaagttttc 120
 ttcattcttct actttgggca aaaggaaaty gatgtgtcag acaggcctag ttttgaattc 180
 tggatctgct agcacttctc tgtgtgtcct tggttatatg atatagtctt aaaccttaat 240
 gttcttgcct gtaaaatggg gataataaaa acctcttaac agtgggtgtt tcatgcagct 300
 ttcattacaa acttcctcat tcaaaatctt caatgatttc catttttcac aaaatgaaat 360
 tcaaaatttc tgtagattat tgagacaagt cccctactct tcacctaaat ttatctttta 420
 tttattctct catcattatc aacaactact aggctttgtt gccttgactc cagaggcaaa 480
 aatcttattc 489

<210> 59
 <211> 468
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele
 <222> 227
 <223> 99-15685-227 : polymorphic base A or G

<220>
 <221> misc_binding
 <222> 204..250
 <223> 99-15685-227.probe

<220>
 <221> primer_bind
 <222> 208..226
 <223> 99-15685-227.mis

<220>
 <221> primer_bind
 <222> 228..246
 <223> 99-15685-227.mis complement

<220>
 <221> primer_bind
 <222> 1..18
 <223> 99-15685.pu

<220>
 <221> primer_bind
 <222> 449..468
 <223> 99-15685.rp complement

<400> 59
 aaacaaaggc acgcagagga taaggcatga gtccaaccag cagcatctcc ctcccgaatg 60
 agtacagaaa tgatcaatac tcgaagagaa aaagatgctt tcagtgtgct ttacctgaaa 120

acttccttaa	gcagcttcac	tttattgtca	ggatatcgct	ttgtgtttgt	atcatctaag	180
aaagctcgcg	catatgctag	tgggccagca	ttgacctaga	caaagarcaa	agattttcag	240
ttccactagg	aagaaaatca	ccatgaccat	ctgctcagtt	tcagtttgca	ggcactaaaa	300
agcccgttcg	cgtgagctac	tcacaatccc	tgccttccag	gaacttaagc	ccaaaaagaa	360
accacaaagc	tcactctgtt	gcacaccact	tgattccatg	atctcagcca	tcttcagggc	420
acttgtgatg	atggtttact	ttatgtaaga	agaaaccaat	gcttgga		468

<210> 60
 <211> 500
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele
 <222> 428
 <223> 99-15695-428 : polymorphic base C or T

<220>
 <221> misc_binding
 <222> 405..451
 <223> 99-15695-428.probe

<220>
 <221> primer_bind
 <222> 409..427
 <223> 99-15695-428.mis

<220>
 <221> primer_bind
 <222> 429..447
 <223> 99-15695-428.mis complement

<220>
 <221> primer_bind
 <222> 1..18
 <223> 99-15695.pu

<220>
 <221> primer_bind
 <222> 481..500
 <223> 99-15695.rp complement

<400> 60	
atcagccttt	gtgaggagga ggcctgcct gctctcctcc tgagctgatg ggtcagtcac 60
accaggacaa	aggtctgccc ggggctgtgt gggttcctcc ttcttgagct gcacaccagc 120
atctgctgaa	caccttctgg agtcagctc agtgtctogt ccagagacac tggttccctt 180
ggcttctcag	caactctcgg atctgggcct gggctcaacc tcagcgggtg tcttgcccat 240
ttctagggcc	tcacaattca gcctcatgtc ttcacctgtg gctcttttgc aaggctcaga 300
aagctctagg	gtcagttcca gatgactccc accagcatgc cagtaggagc caccaccccc 360
tctcagccag	cgccaccata ttccaggcaa attccaactg acacagactt caagggaacga 420
ttgtagcygt	tggtcttctg tcttccaaat ggaagagtgc attattgggg tcccttctag 480
cacgcatttc	attccccacc
	500

<210> 61

<211> 472
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 310
<223> 99-15703-310 : polymorphic base C or T

<220>
<221> misc_binding
<222> 287..333
<223> 99-15703-310.probe

<220>
<221> primer_bind
<222> 291..309
<223> 99-15703-310.mis

<220>
<221> primer_bind
<222> 311..329
<223> 99-15703-310.mis complement

<220>
<221> primer_bind
<222> 1..18
<223> 99-15703.pu

<220>
<221> primer_bind
<222> 452..472
<223> 99-15703.rp complement

<400> 61
agggtcttgg gttataggcg ctgaatttct tctaaagcta acctgactct gatgctagaa 60
gagcccattt aaggaaagaa aaacactttt cattgctcga tcaaagttca tccatttttg 120
aaaagacatc aaaccaagtg tgtgacacca ggcaccata tccttcctct tccccaccac 180
cccacccctg tcctcagggc agtgacagtg aagcctgggtg caggtcccgc tgctgctttt 240
tgaagtggca catgctttat tttcttaaaa agaagtgaga gacaacctat gctacaggag 300
gctctgtgay gtttttctga agtacaaccc cttgctctgc cagggcagct gtaaagggtc 360
taaagagccc tgagaaagga gagaggattt ggggaagccga ggaggcagag ggagaccaca 420
tagcacatgg agttctgaaa gggcccaagt ggagacagaa aacgagtcac gt 472

<210> 62
<211> 470
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 400
<223> 99-15870-400 : polymorphic base A or G

<220>
 <221> misc_binding
 <222> 377..423
 <223> 99-15870-400.probe

<220>
 <221> primer_bind
 <222> 381..399
 <223> 99-15870-400.mis

<220>
 <221> primer_bind
 <222> 401..419
 <223> 99-15870-400.mis complement

<220>
 <221> primer_bind
 <222> 1..21
 <223> 99-15870.pu

<220>
 <221> primer_bind
 <222> 452..470
 <223> 99-15870.rp complement

<400> 62
 gctcaaatgt atcaaacaca gtttctgtgg tcaagttcct ctccctttct aaatttgctt 60
 agaggatctc ataaaacgta actcctctga caagggaacc atttttagcac caacactgca 120
 aaagcttctg tgttcctaag ggaaagatcc tttcctgaat taaatttaac ctcttttagta 180
 ctcccattta gccacctgat aaatccactt gagctatctt ttgggaagag agaggatatct 240
 gggaacaata acacttcctt tttgaacagt ttaataaagc tttgtgagat ttcaagatga 300
 aagataatgt gtaatgctga tagtgccctc caaggctctg cattcatgga tccaattacg 360
 ttttttgtca tggtaaaagc cacagtggat atattaaatr agagtgtggt ttaagaatga 420
 aggcccagga gtctggagat ctggtttcta aggctgactt cacttctgct 470

<210> 63
 <211> 469
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele
 <222> 287
 <223> 99-16321-287 : polymorphic base A or C

<220>
 <221> misc_binding
 <222> 264..310
 <223> 99-16321-287.probe

<220>
 <221> primer_bind
 <222> 268..286
 <223> 99-16321-287.mis

<220>
 <221> primer_bind
 <222> 288..306
 <223> 99-16321-287.mis complement

<220>
 <221> primer_bind
 <222> 1..20
 <223> 99-16321.pu

<220>
 <221> primer_bind
 <222> 451..469
 <223> 99-16321.rp complement

<400> 63
 ctttaggaat atcccttctg atttgaacaa cattttgcta tccaagttct gtctactttt 60
 ttaacaagtt cttgctccgt gtgtctcctt ttgcttggtc tcaagtaagg gagtaacagg 120
 gataaactcc cactccttgg taaatctttc tatcattttt ggaaatctca tccattgtag 180
 taaatgctct taaatcttca tcttcaggcc gtgacttcca tctagcctcc attcacgttt 240
 ccgggtttat gtctgcaatg agcattccgt ggctctacat agatgcmcca ccatacctag 300
 aacccatgta tcccaaactc aattctttct ttcccaggac attacttctt gcacttcctt 360
 agtctatcaa tggcactggt attctcttga ccatctagac ttgaaatttt ggggtttgga 420
 ctctctctgc tcccttgctt tatatgtaat cagacatcaa gtctcaatc 469

<210> 64
 <211> 544
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele
 <222> 194
 <223> 99-16333-194 : polymorphic base A or G

<220>
 <221> misc_binding
 <222> 171..217
 <223> 99-16333-194.probe

<220>
 <221> primer_bind
 <222> 175..193
 <223> 99-16333-194.mis

<220>
 <221> primer_bind
 <222> 195..213
 <223> 99-16333-194.mis complement

<220>
 <221> primer_bind
 <222> 1..19

66210T"48E9T460

<223> 99-16333.pu

<220>

<221> primer_bind

<222> 524..544

<223> 99-16333.rp complement

<400> 64

atttacc	ccg	tctgc	cttgc	aatttc	cagga	tcagt	tataca	tcaaat	caag	tgaaca	accc	60
aggga	attct	gccgt	tacct	tttaga	aaaca	gaataa	atat	taacag	agct	ttactt	cttt	120
ccacca	agga	ggact	atatg	ttaata	cagt	aattta	caact	ggaaaa	aata	taaatg	aaag	180
ggttta	gaac	ctcrta	aactt	taaaaa	taac	ataatt	cctc	ctaga	acatt	cctttc	actt	240
gtgatt	ctca	aagcact	ttg	catttcc	cag	ctattg	gcag	ggctg	gaatt	aggatc	aaag	300
tatcact	aaa	tggtag	gtga	aataaat	gtg	aagctg	at	tcagg	agtac	aggaat	ggag	360
tcatc	aggcg	actttta	aaagt	taagaat	ctg	ttggag	cagc	tgcca	ataaa	tcaagg	ccca	420
aaggag	aaa	ttcttt	ggaa	accttg	aaat	attgtat	aca	tttaga	taat	tattgt	tgtt	480
gtcaat	gtta	acgaaaa	aag	caataa	atca	gggagat	ggc	actgat	gagt	gaggaga	aat	540
agac												544

<210> 65

<211> 475

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 149

<223> 99-5873-159 : polymorphic base C or T

<220>

<221> misc_binding

<222> 126..172

<223> 99-5873-159.probe

<220>

<221> primer_bind

<222> 130..148

<223> 99-5873-159.mis

<220>

<221> primer_bind

<222> 150..168

<223> 99-5873-159.mis complement

<220>

<221> primer_bind

<222> 1..18

<223> 99-5873.pu

<220>

<221> primer_bind

<222> 457..475

<223> 99-5873.rp complement

652707"43E9T460

<220>
<221> misc_feature
<222> 409
<223> n=a, g, c or t

<400> 65
gcgtaacaat aagcaggggt agtcgccaca aaacttgaga taagaggaaa actaaaaaag 60
tctaataaaa tcagtagtct taaaaagatg acatgatagg aagagaagtg ttaaaaaaga 120
aaaaaaatag gtatgaaaga gagtaacaya taccggaaaa gggataaaat acatcctttg 180
aaagaacaaa gagttattca aattgaattc ttaatgaatt acttaaacag cagattagat 240
attgttaaaa agaggaatag ggaattaaat gatatatgtg atgatattac ctagtgtaac 300
catcaaagat gtattgcaaa tgataaagaa aaaaatgctg ccatggcaat attaatatca 360
taaaaatata ctttaagaag taaataaatg caactaggaa tagagaaans dvhatgaata 420
ataatattta amaaavvgta taacaagtat acataagatg taatatccta aaccg 475

<210> 66
<211> 511
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 49
<223> 99-5912-49 : polymorphic base A or G

<220>
<221> misc_binding
<222> 26..72
<223> 99-5912-49.probe

<220>
<221> primer_bind
<222> 30..48
<223> 99-5912-49.mis

<220>
<221> primer_bind
<222> 50..68
<223> 99-5912-49.mis complement

<220>
<221> primer_bind
<222> 11..31
<223> 99-5912.pu

<220>
<221> primer_bind
<222> 494..511
<223> 99-5912.rp complement

<400> 66
aaatataata gtcaaatcat gttaccatta ggacacatta aaaatgtcra attaccttgg 60
gaccttatat gaacatatta agataataat gatagtgttc agtgcaatat tcagatcaat 120
agtttaaacc caaaatattt ataccttcag attagatgta tgcaaatgca ttgattcatg 180

tgtcttttat	ctgttggtta	catttgagga	aatatttgag	aaatatttca	aaatggaatt	240
tatataaatt	taaacacata	atgggtttat	gtaaaaatat	tgctaaatta	cattttcccc	300
ttaattctta	tttcttgga	acgtgcctta	gtcgtgaaa	tattcataca	ttaacacaat	360
gaaagaagt	aaccttacta	ggctttgact	atcagggttg	ctgttggttt	ttgactattg	420
tgaaactata	gcctgatttc	taaatcagga	agaaacgtgt	attgttggtta	atatggacac	480
atgacatatt	tgtctgcctg	acttttgatc	c			511

<210> 67
 <211> 485
 <212> DNA
 <213> Homo sapiens

<220>
 <221> allele
 <222> 210
 <223> 99-6012-220 : polymorphic base G or T

<220>
 <221> misc_binding
 <222> 187..233
 <223> 99-6012-220.probe

<220>
 <221> primer_bind
 <222> 191..209
 <223> 99-6012-220.mis

<220>
 <221> primer_bind
 <222> 211..229
 <223> 99-6012-220.mis complement

<220>
 <221> primer_bind
 <222> 1..19
 <223> 99-6012.pu

<220>
 <221> primer_bind
 <222> 467..485
 <223> 99-6012.rp complement

<400> 67	
gtcttgactt	gttttcctga
gtcttctcag	ttttaataat
ctgctcccag	gtcagtctgc
atttcctgat	tttagagatt
gcataaaaaa	atgtacagca
caacaaagac	cacatggagt
tacttagtgt	tttatttcca
tttagtgtt	tctaaagtag
ggata	
gggtccaggt	tgatttgcat
ccctgtgggt	tctcaggacc
ggttcccttg	tggtctcatc
aattttgaag	actttctttc
atgttaacaa	atggatagtg
ctatcagaga	agtttcctcg
aaaattagtt	atttgaagta
atgtgcccat	aatattcata
tatacaccca	
	60
	120
	180
	240
	300
	360
	420
	480
	485

<210> 68

<211> 529
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 89
<223> 99-6080-99 : polymorphic base C or T

<220>
<221> misc_binding
<222> 66..112
<223> 99-6080-99.probe

<220>
<221> primer_bind
<222> 70..88
<223> 99-6080-99.mis

<220>
<221> primer_bind
<222> 90..108
<223> 99-6080-99.mis complement

<220>
<221> primer_bind
<222> 1..18
<223> 99-6080.pu

<220>
<221> primer_bind
<222> 509..529
<223> 99-6080.rp complement

<400> 68
aaatgtgtcc ctgaaaccca tgctatattc aactgaatat tctaattgtct ttgattacaa 60
agccatctct agcaatttaa tacaattayg aaatggaaaa gttggcaaat gcaaaacaat 120
agctcgtgtt caaggtatgt ctttattagg ggaagtttat cgaaacagat gtttatgcta 180
tttcctataa actagattct aaaatatttt attctataaa gatgtattga ctttatatga 240
aaaaattatt gaaaaatcta caagatgggtg aaactcttta gaactatatt tctattacaa 300
gtttattttt aatttcacaaa atgtactgca taaatgcagc aaaaccttta ttgtcacata 360
ttaaacaatg tacattattg tgtgcaaatt aaaatttcat taccttaaac caaaaagtga 420
gttggccaga tagtaaataa tttaggctct aaggctgaaa agcgcttgta ttaattactc 480
aactccacca ctattttgcc aaagcagtca cagacaatac gcattcaca 529

<210> 69
<211> 489
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 156
<223> 99-7308-157 : polymorphic base C or T

<220>
 <221> misc_binding
 <222> 133..179
 <223> 99-7308-157.probe

<220>
 <221> primer_bind
 <222> 137..155
 <223> 99-7308-157.mis

<220>
 <221> primer_bind
 <222> 157..175
 <223> 99-7308-157.mis complement

<220>
 <221> primer_bind
 <222> 1..18
 <223> 99-7308.pu

<220>
 <221> primer_bind
 <222> 469..489
 <223> 99-7308.rp complement

<400> 69
 tgtggtctgg atatggtgra ctgtccttca cacacagatg tgggaagcca tgatcatcag 60
 ttgcattatt cctgaggggc aatgcattcc agttacatag aaccagtttc tacgtttcag 120
 ggtatatgta ttcattggtga caaatatttatt cacatyttaa gtaattttta gtaattcaca 180
 ttttaagtaa ttttcctgaa tgtgcctcat tggcttctgt gcctcttcag aaaagatgaa 240
 ctaaactg gcatatgtgt tcagatttca acattccggt gttttcattg tggataattt 300
 ctgtcccata tttttgtgta aagtttagaca ataaagtgtt aatattctgg cgtcggcaca 360
 ttttctttcc tgataaataa caattcacat atctttttta aatatcagag aatatagtaa 420
 ccaatttcca attctttttt caccatgtat ctattggagt tttaaaatga ctaatactaa 480
 ggcaactat 489

<210> 70
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> sequencing oligonucleotide PrimerPU

<400> 70
 tgtaaaacga cggccagt 18

<210> 71
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>

<223> sequencing oligonucleotide PrimerRP

<400> 71

caggaaacag ctatgacc

18

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